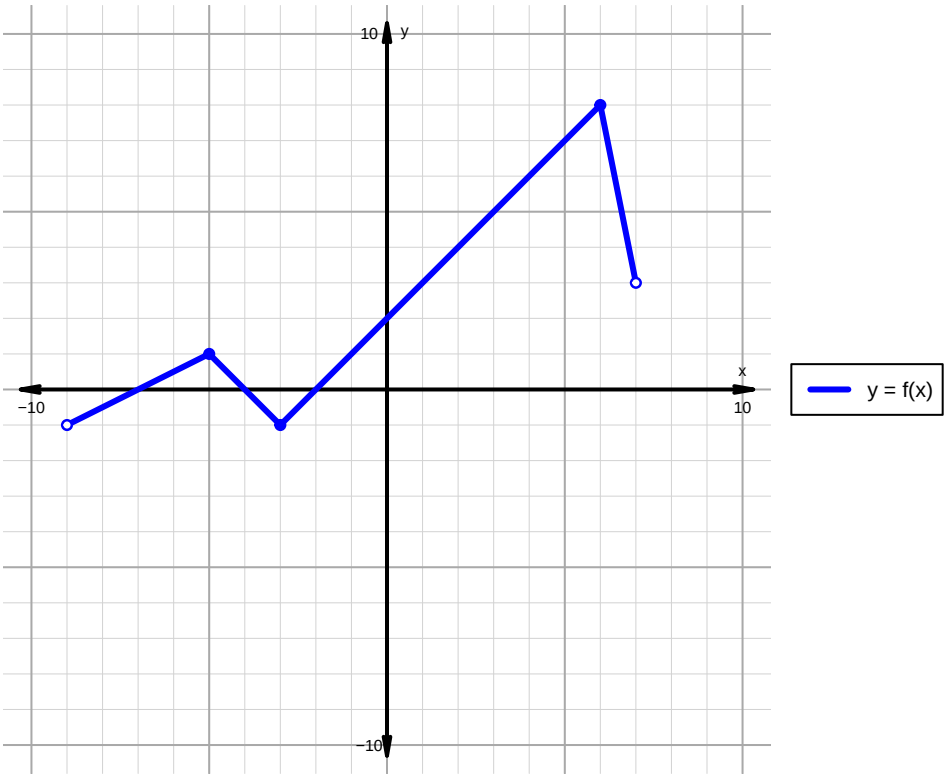
Name: Date:

Intervals, Transformations, and Slope Solution (version 2)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-7,-4) \cup (-2,7)$
Negative	$(-9,-7) \cup (-4,-2)$
Increasing	$(-9,-5) \cup (-3,6)$
Decreasing	$(-5,-3) \cup (6,7)$
Domain	$(-9,7)$
Range	$(-1,8)$

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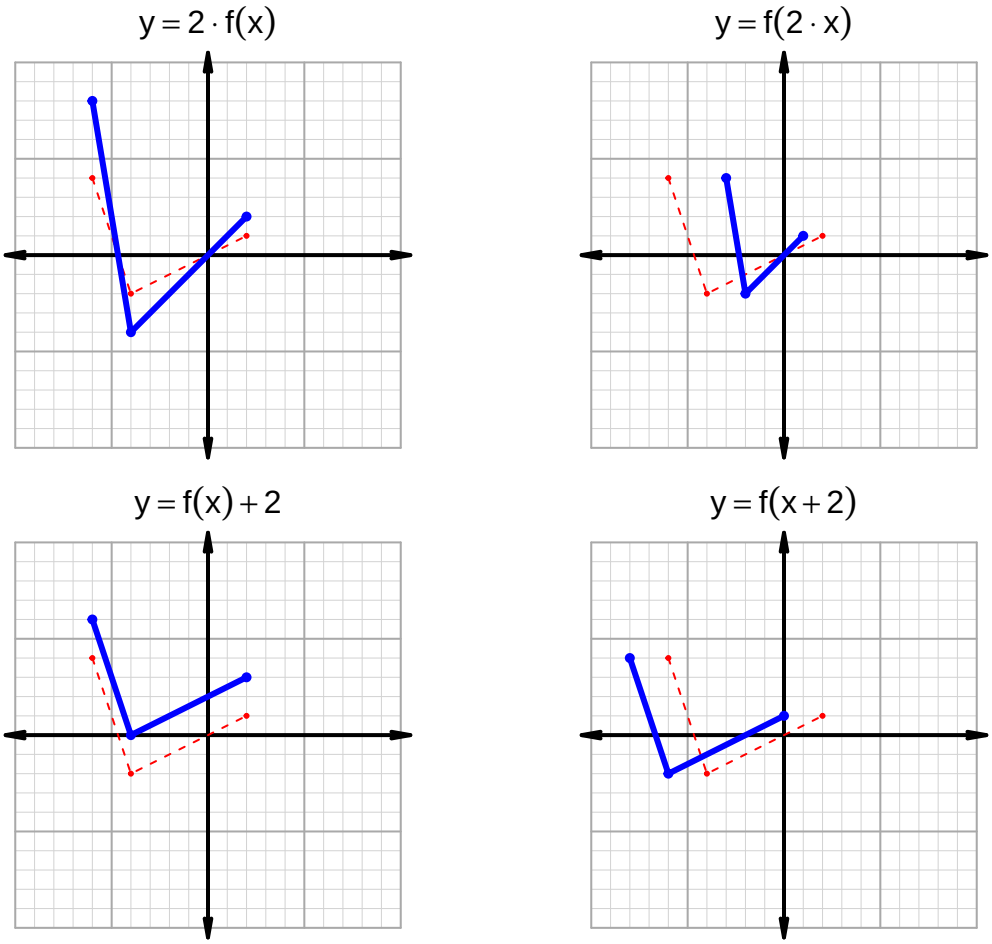
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. Please add the indicated transformed graphs indicated by the equations below using a solid line.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 94$ and $x_2 = 98$. Express your answer as a reduced fraction.

x	$g(x)$
46	94
56	98
94	56
98	46

$\frac{f(98)-f(94)}{98-94} = \frac{46-56}{98-94} = \frac{-10}{4}$

The greatest common factor of -10 and 4 is 2. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-5}{2}$$